

Mississippi Enterprise for Technology

John C. Stennis Space Center



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BUILDING WORKFORCE, BUILDING BUSINESS

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It's all about the impact

This past year has been a challenging yet rewarding one for the Mississippi Enterprise for Technology. MsET and its partners have many successes to build upon, even through the uncertainty of budget cuts and a shaky state and world economy.



Charlie Beasley is president of MsET

It's all about impact, and the numbers show it's significant. Here are some recent highlights:

- Companies that are tenants of MsET reported over \$70 million in annual revenue for the prior year and \$25 million paid in salaries. That's a big impact on the local and regional economy.
- Sixteen of MsET's business incubator graduates currently employ 200 people in Mississippi.
- MsET's four incubator graduates from this year alone employ over 40 people in the state. And chances are good their employee count will go up over time.
- NVision Solutions, one of MsET's success stories, employs over 60 people in Hancock County and is

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Geospatial Technologies

Helping to bring 'em home

Small MsET company finds a niche in the world of unmanned systems

Julio Melhado of Melhcorp had an interesting reply when asked why he considers it important that his small company is involved in the unmanned aerial systems field. His answer wasn't that the UAV field is one of the hottest in aerospace.

It's important, said Melhado, because his company is doing something that helps the war-fighter come home.

"As I said many times before, in the UAV field, when we do our jobs right someone gets to come home," said Melhado, president of Melhcorp, a start-up and tenant of the Mississippi Enterprise for Technology.

Melhcorp recently received the latest purchase order from Northrop Grumman to design, manufacture, maintain and support three different types of payload interface components for Hunter unmanned aircraft.

"We currently build or assemble these boxes 100 percent at Stennis," said Melhado. While some of the boards in the system are off the shelf, some are designed by Melhcorp from the circuit level, he said.

Not only did the company get a new order, but Melhcorp also learned it won the 2009 World Class Team Supplier Award. The honor is given to suppliers



Photo courtesy of Melhcorp

Julio Melhado, president of Melhcorp, surrounded by Raven unmanned aerial vehicles. His startup company designs and produces payload interface units for UAVs.

who consistently demonstrate outstanding achievements and support of Northrop Grumman programs.

The award will be given to Melhcorp at a ceremony in December in California.

Melhcorp was established in 2004 in Slidell, La., as an SBA-certified Small Disadvantaged Business. With two full-time employees as well as part-time workers, the company is

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beginning its second year at MsET, a private, non-profit incubator and technology transfer office at NASA's John C. Stennis Space Center.

"The software and hardware design is a unique know-how that Julio has built Melhcorp upon," said Charlie Beasley, president of MsET. "The Hunter work and the plans for growth are certainly a great fit for the MsET incubator and our Center of Excellence in Geospatial Technologies."

Melhado, an electrical engineer, has experience in the design, development, test, maintenance, and management of projects for aerospace, land, buoy, and underwater platforms involving embedded systems hardware, software, sensors and mechanical integration.

"I started this company as a consultant and continue to work pretty much the same," said Melhado, who uses contract labor when orders dictate the need for more personnel. He also uses subcontractors when the need arises.

The company designs and manufactures electronic systems for harsh environments. The systems involve software and hardware for interfacing with multiple communication protocols, line of sight and satellite telemetry, sensor design and integration – all with a low power design.

In the latest contract with Northrop Grumman, Melhcorp builds payload operation modules that monitor, control and communicate between payloads aboard the Hunter. The interface unit helps control the mounted payloads that include electronics and sensors.



Photo courtesy of Melhcorp

Payload Interface Units made by Melhcorp for Hunter unmanned aerial vehicles. The company is beginning its second year as a tenant of the Mississippi Enterprise for Technology at Stennis Space Center.

"We deal with extreme environments in the form of low and high temperature, shock and vibration, and sand and water intrusion – while at the same time producing software and systems that are dependable," said Melhado.

Melhado chose to relocate to Stennis as a secure place to grow the business after Hurricane Katrina struck in 2005. While the hurricane spurred the decision, it was also a logical location given his expertise.

"I moved the office to Stennis to tap into local organizations that need my background. They are here, and so far I have been able to secure at least one contract with NAVO (Naval Oceanographic Office) in a system we designed and they currently are deploying," he said.

Growth of Melhcorp will be in phases.

"Phase 1 of getting to Stennis and making a solid base for my company here is a reality. The next step is to slowly and controllably expand," Melhado said. He said he's now at a "solid stage with the company and can now concentrate in bringing in more business. . . . I'd like to have at least four engineers working with me by this time next year."

But for the time being, he's focusing on supporting the Hunter UAV, which is used by the Army for intelligence, surveillance and reconnaissance missions. "This has kept me busy," he said.

While his greatest joy is knowing his products help the warfighter, he does recognize that working on products for UAVS is a hot field. The military can't seem to get enough unmanned vehicles, from large ones like Global Hawks to small, hand-launched battlefield UAVs and those in between.

In fact, Melhado said all unmanned technologies – whether aerial, land or water vehicles – are crucial to the military mission. Research and development being used for tactical purposes today transfers directly into science and engineering and helps develop other products, he said.

"The fact these systems are in UAVs just proves that they can be used on one of the harshest of environments. The only other environment that I have worked with that is more rugged than high altitude is the ocean," said Melhado. "I think that our experience minimizes the possibilities of failure while maximizing the chances of success in any of those environments."

– David Tortorano

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currently deploying its banner emergency and disaster management system, called HazNet, throughout NASA, which provided developmental funding and support for the tool.

- In partnership with NASA Stennis Space Center and the University of Southern Mississippi, MsET successfully completed a federal project involving industry assistance and technology transfer initiatives for geospatial technology and agriculture uses.

Looking ahead to 2010 a lot of things are in store:

- MsET aims to engage and initiate economic development efforts that involve Stennis Space Center as a location or catalyst. MsET, for example, partnered with the Hancock County Development Commission to produce a "special report" about the recent designation of Stennis Space Center as a "Project Ready site."

- Position the business incubator program to involve more of the surrounding community's business leaders as mentors, advisors, and participants.

- Develop an MsET affiliate company program that brings off-Stennis companies close

to the assets and services available from MsET and within Stennis Space Center.

- Build modern relationships with Mississippi's federal, state and local agencies, industry groups, universities and community colleges to increase the effectiveness of technology transfer, economic development, and incubation initiatives.

Thank you, to all our partners, stakeholders, and clients. We appreciate your steadfast support over the last 15 years. There is undoubtedly great promise for the next 15 years, and we look forward to growing successes with you.



The MsET story



Tortorano Publications photo

The Mississippi Enterprise for Technology Inc. at John C. Stennis Space Center is a nonprofit created in 1994 as a business incubator and technology transfer office. The joint effort of the Mississippi Development Authority, NASA and the state's universities was designed to spawn the development of high-wage, high-skill technology jobs.

MsET evolved into one of the first state groups to focus on leveraging the presence of federal geospatial activities, the gathering, interpretation and distribution of geographic data acquired with satellites and aircraft to provide a picture of the world. That's no small matter considering it's a key technology of the 21st century. It remains a key area for MsET, but by far not the only one.

The beginning

The state's interest in leveraging federal technologies at Stennis – then called the Mississippi Test Facility – began in 1964 with creation of the Mississippi Research and Development Center. State officials knew they had a jewel in the facility designed to test rockets for NASA.

In 1970 NASA located its Earth Resources Laboratory to MTF to find applications for data acquired from remote sensing equipment. At NASA's invitation, the departments of Commerce, Interior, Transportation, Army, Navy and EPA eventually set up operations at the facility that would be

renamed Stennis Space Center.

In 1994 MsET was established to fulfill the role first envisioned 30 years earlier: leveraging the research, development, test and evaluation taking place at Stennis Space Center.

MsET today

MsET is headquartered in the 56,000-square-foot Mississippi Technology Transfer Center, designated the Center of Excellence in Geospatial Technologies. Building 1103 is also occupied by universities, nonprofits and commercial companies. MsET also has space in Building 1210 for a total of 25,000 square feet.

Its mission is to provide an environment where start-ups can turn technologies into products and services through serving as an incubator and technology transfer office.

As a technology transfer office, MsET is a clearinghouse where research at SSC, whether from federal or state labs, can be converted into products and services for the general public.

As a business incubator, MsET is a member of the National Business Incubator Association and provides an environment where technology start-ups stand much a better chance at surviving through providing business and technology-related services, opportunities for joint ventures, entrepreneur training and access to state and federal technology portfolios. It helps a startup in the critical early stages.

MsET works with a statewide network of offices to offer technology forecasts, business plans, market research, sources of financing/marketing strategies, patent searches and vendor sources.

MsET does not limit itself to a particular type of technology, and the current list of tenants includes companies involved in everything from software development to computer security systems. Long-range plans call for exploring the growth of alternative technology areas.

MsET is also looking at spreading its wings through an additional focus on the economic development of Stennis Space Center. The incubator and technology transfer function will remain the focal point, and will be beefed up. But the broader economic development of Stennis Space Center itself is a natural fit for MsET.

"We need to position ourselves to be able to take advantage of opportunities," said Charles Beasley, president of MsET. "We can do more. We can also be an economic developer."

MsET already has a track record of getting directly involved in the economic development of Stennis. MsET in the past was instrumental in helping Stennis win the Shared Services Center in a NASA-wide competition. It wound up creating some 500 high-paying jobs.

MsET plans to partner with other organizations interested in the development of SSC as a major economic engine.



Demographics

The John C. Stennis Space Center is a key location for three of five science and technology sectors likely to play a growing role in South Mississippi's future.

South Mississippi science & technology sectors

Sector	Primary centers
Aerospace	Stennis Space Center; Moss Point
Advanced materials	Hattiesburg; Bay St. Louis; Gulfport
Shipbuilding	Gulfport; Pascagoula
Geospatial technologies	Stennis Space Center, Ocean Springs
Marine science	Stennis Space Center, Ocean Springs

Source: Mississippi Gulf Coast Alliance for Economic Development/Tcp



Stennis tenant MsET has a range of technology companies involved in a variety of fields. They range from those involved in providing business services to those making products.

Current MsET companies

Company	Field
3 Rivers Visual Communications	Business services
DQSI Corporation	GIS support
DigitalGlobe	Imagery products
Digital Quest	Education products
DNet	Geoinformatics
Geocent	Geospatial
Helios Systems	Digital media
High Performance Solutions	IT support
Innovative Imaging and Research Corp.	Illumination; agr.
Institute for Technology Development (ITD)	Imaging
Melhcorp	UAV products
Mississippi Global Technologies	Navigation; security
Northrop Grumman Information Technology	Emergency mgmt
Prototyping Solutions	3D printing
Radiance Technologies	Geospatial
Rockwell Collins	Geospatial; UAV
Skylla Engineering	Engineering
Themis Vision Systems	Imaging
WorldWinds	Weather modeling

Source: Mississippi Enterprise for Technology

MsET tenant residency		MsET tenant education	
Pearl River County	27%	Bachelors	44%
St. Tammany Parish	21%	High school	30%
Hancock County	17%	Masters	18%
Harrison County	15%	Associates	6%
Other Louisiana parishes	13%	PhD	1%
Other Mississippi counties	8%		

MsET Profile

Most MsET tenant workers live in Mississippi, but 34% are from Louisiana. Sixty-nine percent of the workers have college degrees. Source: MsET

South Mississippi federal/state geospatial research

Organization	Location
Center of Higher Learning/University Research (Consortium)	Stennis
Engineering Research Center - GeoResources Institute (MSU)	Stennis
Engineering & Science Directorate (NASA)	Stennis
Enterprise for Innovative Geospatial Solutions (UM)	Stennis, Oxford, Jackson
Gulf Coast Geospatial Center (USM)	Ocean Springs
Hydrographic Science Research Center (USM)	Stennis
Joint Airborne Lidar Bathymetry Technical Center (NOAA)	Kiln
Mississippi Enterprise for Technology (Mississippi)	Stennis
Mississippi Laboratory/Southeast Fisheries Science Center (NOAA)	Stennis
Mississippi Laboratory, Pascagoula Facility (NOAA)	Pascagoula
National Data Buoy Center (NOAA)	Stennis
Naval Oceanographic Office (Navy)	Stennis
Naval Research Laboratory, Research Site (Navy)	Stennis
Northern Gulf Institute (Consortium)	Stennis

Source: Mississippi Gulf Coast Alliance for Economic Development/Tcp